

Copy Cyndi Darling 867

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

VERSO BUCKSPORT LLC)	SOLID WASTE
BUCKSPORT, HANCOCK COUNTY, MAINE)	LICENSE
INCREASE IN LICENSED FINAL ELEVATION)	
SPECIAL WASTE LANDFILL)	
#S-007713-WD-BB-A)	AMENDMENT
(APPROVAL WITH CONDITIONS))	

Pursuant to the provisions of the *Maine Hazardous Waste, Septage, and Solid Waste Management Act*, 38 M.R.S.A. §§ 1301-1319-Y and the Department's *Solid Waste Management Regulations, General Provisions*, 06-096 CMR 400 (last amended July 20, 2010), *Landfill Siting, Design, and Operation*, 06-096 CMR 401 (last amended July 20, 2010) and *Water Quality Monitoring, Leachate Monitoring, and Waste Characterization*, 06-096 CMR 405 (last amended June 16, 2006), the Department of Environmental Protection ("Department" or "DEP") has considered the application of VERSO BUCKSPORT LLC ("Verso") with its supportive data and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

- A. Application: Verso has applied for an amendment to Department Order #S-007713-WD-S-R, dated February 27, 1997. This order relicensed the special waste landfill now owned by Verso.
- B. History: A pulp and paper mill ("the mill") and associated landfill were established in Bucksport, Maine in the 1930s; the mill and landfill have changed ownership several times since then, and are now owned by Verso. The landfill, located about ½ mile north of the mill on Route 15, was initially used for disposal of bark and woodwaste. Following construction of the wastewater treatment plant at the mill in the mid-1970s, sludge was disposed in the landfill. On February 24, 1982, in anticipation of construction of a biomass boiler at the mill, the landfill footprint was expanded to include a 12-acre secure disposal area for ash from the boiler as well as an additional 16-acre sludge disposal area and a new leachate storage pond (Department License # 00/26-7713-09070). The landfill footprint is currently approximately 48 acres. On February 27, 1997, Champion International Corporation ("Champion") received approval from the Department of its landfill license renewal application (Department License # S-007713-WD-S-R). In the renewal application, the peak final elevation of the landfill was approved to be 184 feet above mean sea level ("MSL"), and phased closure

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was approved. On February 12, 2001, the solid waste licenses were transferred from Champion to International Paper ("IP"). On July 12, 2006, Department licenses (including solid waste licenses) were conditionally transferred from IP to CMP Bucksport, LLC. On October 13, 2006, CMP Bucksport LLC changed its name to Verso Bucksport LLC. Since relicensing, various Department licenses have been issued approving special waste disposal, gas management, a new leachate transport line, and closure of several of the landfill cells. On December 22, 2000, a 26 acre landfill expansion was approved (Department License # S-7713-WD-AD-N). This expansion was designed to overlap 15 acres of the northern side of the existing landfill, reach a final elevation of 230 feet MSL and provide 3.6 million cubic yards ("cy") of capacity, expected to last for 26 years. The expansion has not yet been constructed; several extensions have been granted to the time specified in Special Condition #2 by which construction must be initiated.

- C. Summary of Proposal: Verso now requests approval to increase the licensed final elevation of the existing landfill by 46 feet, to elevation 230 feet MSL (the same final elevation approved for the landfill expansion). The proposal ("vertical increase") includes construction of a liner system on top of 24 acres of the existing landfill (which is 48 acres in size) with leak detection and leachate collection. The vertical increase would provide approximately 700,000 cy of capacity. The vertical increase is intended to take the place of the landfill expansion. The landfill expansion would have included regrading the north slope of the existing landfill and covering it with the liner system for the expansion. Verso instead proposes to regrade the north slope of the existing landfill, evaluate the leachate collection system at the toe of the slope, and place a sideslope final cover system over it. Verso also proposes to upgrade the existing leachate storage pond to meet current design standards. After approval of the vertical increase has been issued, Verso intends to petition for surrender of the landfill expansion license.

2. PUBLIC PARTICIPATION

A request for a public hearing was received by the Department for the amendment application. Reasons provided in support of the request included: type, quantity, and location of various wastes in the existing landfill; information regarding illnesses resulting from exposures at the landfill; measures taken by mill owners to protect employee and public health and safety; and effect of the landfill on water quality in

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Silver Lake, the Town of Bucksport's public water supply source. The Department determined that a public hearing on the application was not warranted because no issues related to conflicting technical evidence regarding licensing criteria were raised, and no other reasons for holding a public hearing were raised. No other comments were received from the public on the application.

3. FINANCIAL CAPACITY

Verso estimates the cost to construct the vertical increase will be approximately \$14,324,000 (in current dollars). Operational costs are expected to be similar to current costs, approximately \$200,000 per year. Closure costs will depend on the final cover system required; the current landfill's closure cost is approximately \$340,000 per acre. The surface area of the vertical increase requiring closure would be 22.8 acres, which would give a cost (assuming the same closure design) of approximately \$7,750,000. Post-closure monitoring and maintenance is expected to be approximately \$2,305,000. Verso's operating costs are included in the mill's annual budget. Verso establishes a capital improvement budget annually; construction costs would be included in this budget at the appropriate time. Verso has an escrow account it uses to pay for closure costs; Verso will recalculate the amount needed for this account following issuance of the vertical increase license. Department staff ("staff") comments that Verso will need to provide evidence that construction costs have been included in the mill's budget prior to commencing construction for each year in which construction is proposed. The Department finds that Verso has provided adequate evidence of financial ability to construct and operate the vertical increase provided it demonstrates to the Department that construction costs have been included in the mill's capital budget prior to commencing construction for each year in which construction is proposed.

4. FINANCIAL ASSURANCE

Verso currently provides financial assurance for closure and post-closure care with a letter of credit and standby trust. For the existing landfill, the most recent estimate of the cost of closure and post-closure care was \$7,943,000. Verso states that it intends to either continue to use a letter of credit and standby trust or a reserve account to provide financial assurance for closure and post-closure care of the vertical increase. Staff comments that Verso's closure and post-closure care cost estimate, financial assurance mechanism, and amount of financial assurance are reviewed by staff annually with Verso's landfill annual report, and that the financial assurance for the vertical increase will be included in this annual review process when Verso is ready

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to begin constructing it. Staff comments that Verso should not begin construction of the vertical increase without an approved financial assurance mechanism for the appropriate amount in place. The Department finds that Verso has made adequate provisions for financial assurance for closure and post-closure care, provided it does not begin construction without an approved financial assurance mechanism in place for the appropriate amount.

5. TECHNICAL ABILITY, CIVIL AND CRIMINAL DISCLOSURE

Verso's landfill operational staff receives landfill operator training annually, and has demonstrated the ability to operate the landfill in accordance with its licenses and state environmental regulations for many years. Landfill operation and compliance, and permitting issues are overseen by the mill's environmental department; they also participate in landfill operator training, and have also demonstrated the ability to operate the landfill in compliance with its licenses and state environmental regulations for many years. Verso has retained the services of Sevee & Maher Engineers, Inc. ("SME"), an engineering and hydrogeologic consulting firm, for assistance with landfill operations and development, as well as to design and assist with permitting of the vertical increase. SME has a staff of appropriately licensed professionals with extensive experience in landfill operation and design, permitting, and construction oversight. In the case of landfill construction projects, Verso, with assistance from its consultant, typically hires a contractor with knowledge, ability, and equipment to complete the project, with appropriate oversight and subsequent certification of compliance with the approved design by its consultant. Staff comment that the landfill was found to be operating in substantial compliance with its licenses and the Solid Waste Management Regulations ("regulations") at the time of the most recent inspection, as it has been for many years. Verso included a civil and criminal disclosure statement with the application; it included disclosure of receipt of a notice of violation from the Department for management of hazardous and universal wastes in April 2008. Verso corrected the problems and no further action was taken by the Department. The Department finds that Verso has provided adequate evidence of technical ability to construct and operate the vertical increase in a manner consistent with state environmental requirements and its license, and finds no reason to withhold this license based on the civil and criminal disclosure statement.

6. EXISTING USES, SCENIC CHARACTER

The proposed landfill final elevation is the same as the final elevation approved for the landfill expansion licensed in 2000. When the landfill expansion was licensed,

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the visual impact of the expansion was assessed by SMRT, Inc. of Portland, Maine. SMRT, Inc. found that the expansion would be visible (as is the existing landfill) from several areas, but would be seen as a continuation of what is already there, and would be compatible with existing landforms in the area in terms of line, form, orientation, and scale. The report concluded that the expansion would not pose an unreasonable adverse effect on the scenic character of the area, which includes the pulp and paper mill and bulk petroleum storage facilities in the immediate vicinity. The mill, tank farm, and the Sprague Energy terminal were noted to present dominant features from every approach to town.

Verso evaluated noise from the vertical increase; nonexempt noise sources during normal operations are limited to the sound of the bulldozer used to place and compact waste. Verso expects to continue to use this or a similar piece of equipment. Daytime for noise purposes is considered to be 7 AM to 7 PM. The landfill is open from 6 AM to 6 PM; however, Verso intends to only perform routine waste delivery or remove snow between 6AM and 7AM (exempt noise sources). Landfill operations and any construction activity will be limited to daytime hours. Verso already instructs drivers delivering waste to the landfill to drive responsibly and avoid banging tailgates. When construction occurs at the landfill, drivers of contractors' trucks are similarly instructed. Verso's consultant, SME, evaluated noise levels at the closest property line and at the closest protected location. SME notes that 06-096 CMR 400.4.F(2)(c) states that "for any protected location near an existing solid waste facility, the hourly sound level limit for routine operation of the existing facility and all future expansions of that facility is the existing hourly sound level from routine operation of the facility before any expansion plus 3dBA". Sound level limits were below the daytime and nighttime limits plus 3dBA at the property line and protected locations provided the only activities taking place during nighttime hours are routine waste delivery or snow removal. The operating landfill area of the vertical increase will be farther away from the nearest protected location than the closest part of the current operating area, since the vertical increase area will not encompass the entire landfill footprint. Verso will therefore meet the sound level limits.

The Department finds that the vertical increase will not unreasonably adversely affect existing uses or scenic character, provided Verso continues to adhere to its current policies regarding timing of operation, timing of construction, and operational practices to limit noise.

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7. EROSION AND SEDIMENTATION CONTROL

The landfill is not in the direct watershed of a waterbody most at risk from new development. Any soil disturbance during construction of the vertical increase will take place within the landfill footprint, and will be done in phases as new cells are needed. Design and implementation of erosion and sedimentation control measures will be in accordance with the "Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices" (Department, 2003). An erosion and sediment control plan was included with the application; temporary and permanent measures are proposed, including silt barriers, mulching, temporary seeding, stone check dams, permanent seeding, mulching, culvert inlet and outlet protection, and construction of downspouts. Clean runoff will be directed by culverts, grass lined ditches, and riprap downspouts to the existing stormwater ponds on site. Existing erosion and sediment control structures will be modified as needed to provide sufficient capacity and to control peak flow rates. Erosion control measures will be put in place prior to disturbing soil. The erosion and sedimentation control plan included calculations for ditch sizing and lining, riprap size, and culvert sizing; erosion and sedimentation control specifications and details; and maintenance procedures.

The Department finds that Verso has made adequate provisions for erosion and sedimentation control.

8. UTILITIES

Leachate collected from the vertical increase will flow into the existing leachate transport line, which flows to the mill for treatment in the wastewater treatment plant. More information about the leachate collection system is in Finding of Fact # 11.D, below. The mill's wastewater treatment plant has a capacity of 24 million gallons per day; current average flow is substantially less, with approximately 40,000 gallons per day coming from landfill leachate. No water supply is needed at the landfill. The site already has 3-phase power. The Department finds that Verso has made adequate provision for utilities associated with the vertical increase.

9. STORMWATER MANAGEMENT, FLOODING

Riprapped ditches, grass-lined ditches, and culverts at the existing landfill convey stormwater to three detention ponds on site. The vertical increase will include new ditches, culverts, and downspouts to direct stormwater runoff from the vertical

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increase to the existing detention ponds. Some existing stormwater management structures will need to be modified to provide sufficient capacity or control peak flow rates; calculations were provided to demonstrate that new structures, modified existing structures, and unmodified existing structures will be appropriately sized. SME evaluated the peak runoff rates for the proposed vertical increase, and found that post-development runoff will not exceed pre-development runoff with the proposed modifications. An existing 24-inch reinforced, concrete culvert running north to south under the landfill conveys runoff from the northern side of the landfill to the southern side. SME determined by pipe strength calculations that the culvert would maintain integrity during vertical increase operations. However, staff comments that a video inspection of the 24-inch culvert should be done just prior to vertical increase construction in order to verify its condition. Verso confirmed that this will be done. The Department finds that the proposed vertical increase will not cause or increase flooding on site or on adjacent properties provided the 24-inch culvert under the landfill is video inspected just prior to vertical increase construction and the inspection shows the culvert is intact.

10. GEOLOGIC CONSIDERATIONS

- A. General Setting: The landfill is located east of Route 15 in Bucksport, about 3000 feet north of the main part of the mill. The Penobscot River lies west of Route 15. Residences are located west and northwest of the landfill, with the closest approximately 1000 feet from the boundary of the vertical increase area. The area north of the landfill is partially wooded and includes a power line and a wood processing area for the mill. Residences are also located east of the landfill, about 1000 feet at the closest point. A Webber Oil tank farm is about 800 feet south of the facility, then the Dead River Oil Company, and the mill. Silver Lake, the Town of Bucksport's municipal water supply, is northeast of the site, about 1500 feet at the closest point. It is separated from the landfill by a drainage divide. Just northwest of the landfill is another drainage divide; a small stream across the divide flows north, then west to the Penobscot River. The landfill area drains south to Smelt Brook, which flows into the Penobscot River just south of the mill site. The nearest sand and gravel aquifer is over 2 miles away. High yield bedrock zones have been mapped about 300 feet west of the vertical increase and further away to the south and southeast. The residences west and northwest of the landfill and some of the residences east of the landfill obtain water from wells. The mill, Dead River Oil Company, and Webber Oil obtain water from the municipal water supply.

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- B. Summary of Site Specific Information: Geologic and hydrogeologic information from published sources as well as site investigations for the area has been compiled for previous applications, and several new borings were made in preparation for this application. Overburden is shallow (5-25 feet under the vertical increase area) and thinnest to the north and east. The center of the vertical increase area is underlain by glaciomarine sediments, and the remaining surficial material consists of glacial till. Bedrock includes the Bucksport Formation (meta-pelite and meta-siltstone) and the Penobscot Formation (phyllite and schist); the contact between these formations, a thrust fault considered to be about 400 million years old, is mapped as running under the existing landfill. No evidence of Holocene movement of this fault has been found. Overburden and shallow bedrock ground water flow direction is thought to be controlled by the shape of the bedrock surface; flow is southerly with a component downward into bedrock. Bedrock flow is determined by orientation and interconnection of fractures, generally south and southwestward. Based on the elevation of Silver Lake and the potentiometric surface in the landfill area, SME expects that deep bedrock ground water flows from the lake toward the landfill and the Penobscot River, rather than from the landfill to the lake. Surface water from the northern side of the landfill flows through a 24-inch concrete pipe under the landfill and discharges into Smelt Brook. The existing 12-acre area licensed for ash disposal has a 2-foot thick compacted clay liner with leachate collection. A small area within the 16-acre sludge expansion was lined, and a toe drain and slurry wall were constructed along the southern edge. A limited amount of leachate collection piping was installed upgradient of the slurry wall. A drain to collect leachate was also constructed along the northern toe of the landfill. All leachate collected flows to the leachate pond, constructed with a clay liner. Ground water monitoring at the landfill indicates water quality deterioration resulting from the existing landfill to the south and west. Pore-water monitoring in a wetland at the northern toe of the landfill also shows limited deterioration close to the landfill. The northern slope of the landfill is graded with terraces and has a soil cover of unknown quality and thickness. As mentioned in Finding of Fact #1.C, above, Verso intends to regrade the north slope of the existing landfill, place a final cover system on this slope, and evaluate the leachate collection system at the toe of the slope. Verso proposes to complete this north side work in two phases, with phase I construction in 2013 and phase II construction in 2014 or 2015. The timing of phase II construction will be agreed upon by the Department and Verso after the fall

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2013 flyover to determine topography. Design and application submittals will be made in the fall or winter prior to the summer/fall construction period. Staff comments that Verso's proposal to regrade the northern slope, construct a sideslope cover system, and evaluate the north side leachate collection may result in improvements in water quality. Staff comments that application submittals for north slope closure and leachate collection evaluation work should be in the form of a minor revision, as other phased closure applications have been. Staff further comments that the double composite liner system on top of the existing landfill and under the vertical increase will allow separate monitoring of the vertical increase and will likely reduce release of leachate from the existing landfill, thereby acting as a remedial measure. Water quality monitoring is discussed in Finding of Fact #15, below.

- C. Time of Travel: The application includes identification of sensitive receptors and an analysis of the time of travel for potential pollutants from the base of the vertical increase to sensitive receptors. A list of potential sensitive receptors was developed; upon closer investigation, only one of them was determined to be a sensitive receptor, Smelt Brook. Smelt Brook is a class B tributary to the Penobscot River, and originates at the discharge from Verso's filter house, where Verso obtains process water from Silver Lake. Shallow ground water from under the existing landfill flows toward Smelt Brook. Previous investigations at the site found that a silty clay layer under Smelt Brook appeared to limit ground-water discharging into the brook; however, the possibility remains that some ground water may discharge into the brook.

The vertical increase design includes a double composite liner with leak detection capabilities. For these features, 06-096 CMR 401.2.D(2) allows use of an improvement allowance offset of 3 years in order to achieve the required 6 years of travel time to sensitive receptors. In addition, a 2-foot thick layer of imported barrier soil (currently part of the cover system of the existing landfill) will be used under the new vertical increase liner system. This soil will account for 2 years of travel time. Travel time was evaluated from 15 points within the vertical increase footprint in order to evaluate different waste types and thicknesses in the existing landfill through which leachate from the vertical increase would need to travel, varying soil types and thicknesses beneath and beyond the existing landfill, and varying distances to Smelt Brook. The calculated travel time, including offset and travel time through imported soil ranged from 8.6 years to 35.6 years. This exceeds the requirement for a minimum 6 year travel time to sensitive receptors.

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The Department finds that the vertical increase does not overlie a significant sand and gravel aquifer or pose an unreasonable threat to a significant sand and gravel aquifer it does not overlie; that the proposed vertical increase does not pose an unreasonable threat to an underlying fractured bedrock aquifer; and that the proposed vertical increase will not result in a time of travel of less than 6 years to a sensitive receptor, provided: Verso submits north slope closure and leachate collection evaluation minor revision application materials, including detailed design drawings and technical specifications, to the Department in accordance with the schedule agreed to by Verso and the Department.

11. ENGINEERING DESIGN

- A. General Description of Design: The vertical increase design includes construction of a perimeter road around the vertical increase boundary, base preparation on the top of the existing landfill, secondary liner, leak detection, primary liner, leachate collection, leachate transport to existing infrastructure, landfill development, intermediate cover, and a final cover system. The vertical increase will be developed in two phases; Phase I will be 28 acres in size, is currently expected to be developed in 7 cells, and will provide approximately 500,000 cubic yards of airspace. Phase II, developed on top of Phase I, will be 12 acres in size, is currently expected to be developed as 3 cells, and will provide approximately 230,000 cubic yards of airspace. The complete vertical increase would provide 20-30 years of disposal capacity for the mill at current waste generation rates. Intermediate cover would be applied as cells are filled in order to limit leachate production. Final cover would be placed in phases as areas reach final grade. Verso would submit individual cell design and detailed construction drawings with technical specifications to the Department for review and approval prior to each phase of construction.
- B. Base Preparation: The top of the existing landfill has been covered with either approved final or intermediate cover systems; in both cases, this includes a gas transmission layer (sand with gas vent piping), barrier soil, and topsoil. Within the crown final cover areas, the cover system also includes drainage sand and a 40-mil linear low-density polyethylene geomembrane. Topsoil, drainage sand and geomembrane will be removed; gas vent risers within the boundary of the vertical increase will be removed; barrier soil will be tested to assure it meets the specification for imported soil and will be replaced or

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reworked as needed, and an additional 6 inches of soil will be placed to obtain 24 inches of barrier soil with a hydraulic conductivity ("K") less than or equal to 1×10^{-7} cm/sec. This is the imported soil referred to in Finding of Fact #10.C, above. Existing leachate collection manholes within the existing landfill will need to be decommissioned when the corresponding area is developed for the vertical increase.

- C. Liner System Design: The liner system for the vertical increase will include the following, from the bottom up, beginning above the 24 inches of barrier soil:
- A secondary composite liner consisting of: a geosynthetic clay liner ("GCL") with an average $K \leq 1 \times 10^{-7}$ cm/sec and 40-mil textured high-density polyethylene (HDPE) geomembrane;
 - A leak detection system consisting of a drainage geocomposite, minimum 6-inch perforated HDPE pipe and 12 inches of sand/stone;
 - A primary composite liner consisting of GCL (average $K \leq 1 \times 10^{-7}$ cm/sec) and 60-mil textured HDPE geomembrane;
- D. Leachate Collection, Transport, and Storage: The vertical increase will have its own leachate collection system. A drainage geocomposite will overlie the primary HDPE liner. Above this, perforated pipe will be surrounded by drainage stone, which will be covered by filter stone before the sand drainage material is placed. The leachate collection system was designed to limit leachate head on the primary liner to not more than 12 inches, which is the thickness of the drainage medium. SME used peak monthly precipitation values, a 24 hour, 25 year storm event and considered consolidation water from waste when calculating peak leachate generation and impingement rate in order to determine pipe sizing and spacing. Filter design criteria were included at critical component interfaces. Leachate from each of the Phase I cells will drain by gravity to that cell's 6-foot diameter HDPE manhole located along the outer edge of the vertical increase. Piping will connect directly to the manhole without penetrating the liner; however, the manholes will penetrate the liner. Phase II cells will use concrete wetwells for internal leachate collection.

The leak detection system will also include a drainage geocomposite, pipe bedded in stone, and a sand drainage layer. Leak detection fluid from each cell flows to that cell's manhole, so Verso could determine approximately where in the primary liner a leak occurred. Leaks should be able to be

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detected within 2 days. As with the leachate collection system, leak detection piping will connect directly to the manhole without penetrating the liner. Each cell's leak detection system will be equipped with a flow meter to enable accurate flow measurements. The manhole design would allow leak monitoring of the manhole itself with a 4-inch standpipe. Verso will establish separate provisions for leak monitoring of the manhole. These will also be provided at least 12 months prior to cell development.

From the manhole, leachate will flow to an 18-inch leachate line around the perimeter of the existing landfill. This line will flow by gravity to a new diversion manhole (6-foot diameter concrete with a 60-mil HDPE cast-in-place liner) that will connect to 2 existing manholes. One of the existing manholes (MH-9) receives leachate from the existing landfill and directs leachate to the existing leachate pond. The other existing manhole (MH-10) receives leachate from the existing landfill and leachate pond, and directs it to a double-walled leachate transport line to the mill's debarker building and wastewater treatment plant. The vertical increase leachate will be directed to the mill except in cases of emergency, repairs, or a severe storm requiring short term storage of leachate in the leachate pond. SME calculated that during the worst case design scenario, overflow leachate from the diversion manhole would go to the pond for about 4 hours. The clay-lined leachate pond will also continue to receive leachate from the existing landfill. Verso proposes to upgrade the leachate pond to meet current design standards in 06-096 CMR 401.2.D(4)(b); design and construction-ready drawings would be submitted in summer 2015, bid documents incorporating Department review comments would be issued in spring 2016, and construction would occur in summer 2016. All flow of leachate is by gravity, although the line from the landfill to the mill has been designed as a force main. Manholes will be accessible throughout the operating life of the vertical increase and during the post-closure period. Primary leachate pipe collection headers will be accessible for cleaning and inspection without the need for confined space entry. A layer of select waste (Verso's wastewater treatment plant sludge) will be placed over the leachate collection sand/stone to protect the liner system from frost and to minimize migration of ash into the leachate collection system. The size and location of storage areas for sludge to be used for frost and erosion protection will be proposed to the Department at least 12 months prior to construction of a new cell.

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- E. Manhole Alternative Design Analysis: 06-096 CMR 401.2.D(4)(a)(viii) requires that leachate collection and leak detection system transport pipes may penetrate the liner system below the level of the waste only when the penetration area is designed with leak detection and has the practical capability of being repaired. The 7 leachate collection manholes in Phase I (one in each cell) will penetrate the liner system, but will allow leak detection and leachate collection piping to connect to the manhole without penetrating the liner. The manholes will be accessible throughout the life of the landfill, will have the capability of being repaired, and have leak detection capability. Prefabricated attachment rings will be used to attach the primary and secondary liners to the manhole; SME states that this will provide a higher level of quality control and quality assurance testing than a traditional pipe boot penetration would. Since manholes, piping, and liner will all be HDPE, thermal expansion/contraction effects will be minimized and cathodic reactions between dissimilar materials are not expected. The design allows gravity draining of leachate and eliminates the need for pumping or a leachate sump. Prefabricated features will be tested at the manufacturing facility, and the manhole/liner connections can be hydrostatically tested at the time of installation. The design will allow for sufficient access to the manholes for construction, maintenance and any necessary repair. SME states that HDPE manholes have been in use for leachate collection and transport in the US and Europe for several decades, and have also been used in Maine. SME obtained assistance from a manufacturer of HDPE pipe and manholes with the design of the proposed manhole structure. This is not a new or unique technology.
- F. Final Cover System Design: The application included a proposed final cover system for the vertical increase. It includes, from the top down, 12 inches of topsoil; 12 inches of sand; 40-mil textured LLDPE geomembrane, 24 inches of barrier soil and 12 inches of sand. Closure is expected to occur in phases; detailed design drawings and technical specifications will be submitted to the Department for review and approval prior to each phase of closure. Verso acknowledges that the actual final cover system will need to meet the requirements of the regulations in effect at the time of closure.
- G. Location Relative to a Seismic Impact Zone: The landfill is in a seismic impact zone. All vertical increase structures (liner system, leachate collection system, leak detection system, leachate transport system, and surface water control systems) were designed to withstand maximum horizontal acceleration

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in rock having a 90 percent probability of not being exceeded in 50 years (construction and operation) and 250 years (post-closure).

- H. Staff Review: Staff comments that the design and construction-ready drawings for leachate pond reconstruction should be submitted with a minor revision application by September 1, 2015. Staff comments that the leachate transport system from the landfill manhole to the debarker building at the mill should be inspected and cleaned as necessary just prior to vertical increase operations. Staff further comments that individual cell design documents and construction drawings should include details regarding decommissioning of existing leachate collection manholes in the area and, for each cell's leak detection system, the electrical details and flow meter design.

The Department finds that the vertical increase design is acceptable provided that:

- individual cell design and construction-ready drawings with technical specifications, including details regarding decommissioning of existing leachate collection manhole and the electrical details and flow meter design for the cell's leak detection system, are submitted to the Department for review and approval at least 12 months prior to each phase of construction;
- provisions for leak monitoring of the manhole liner penetrations are provided at least 12 months prior to vertical increase operation;
- size and location of storage areas for sludge to be used for frost protection are proposed to the Department at least 12 months prior to construction of a new cell;
- phased closure documents, including detailed design drawings and technical specifications meeting the requirements of the regulations in effect at the time are submitted to the Department for review and approval prior to each phase of closure;
- design information and detailed construction drawings for leachate pond reconstruction are submitted to the Department for review and approval as a minor revision application by September 1, 2015; and
- the leachate transport system from the landfill manhole to the debarker building at the mill is inspected, and cleaned as necessary, just prior to vertical increase operations.

12. ENGINEERING REPORT

- A. General: The application's engineering report includes a summary of design selection, basis for design, site-specific factors for the design, and

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construction procedures for the barrier soil layer, primary and secondary liner systems, leak detection system, leachate collection and transport systems, gas management system, and both intermediate and final cover systems. In addition, design considerations, potential failure modes, and significance of failure were addressed for each of these systems. Strict construction quality assurance/quality control, timing of construction, use of conservative material specifications, filter design criteria, and redundant design components, backup systems, and other design features will help prevent many of the potential failure modes described.

- B. Geotechnical Evaluation: Slope stability was evaluated by analyzing foundation soils, waste, and liner systems along 4 critical cross-sections for static and seismic loading during operations and post-closure. Calculated factors of safety met or exceeded those required by the regulations, indicating deformations would be within allowable limits. Neither waste nor foundations soils is susceptible to liquefaction. A settlement analysis was conducted to ensure the post-closure base liner slope would be at least 4% in order to maintain drainage (it will be constructed with an 8% slope). In addition, the perimeter leachate collection line must provide gravity drainage, and the integrity of the liner system, cover system, and perimeter leachate collection line must be maintained. Settlement was evaluated at 29 locations along 7 cross-sections and along a profile of the perimeter leachate collection line. Settlement of foundation soil is expected to be insignificant. Settlement of waste within the existing landfill as a result of the load of the vertical increase is expected to produce most of the settlement. Primary settlement of up to 12 feet and secondary settlement of up to 3 feet is expected. Resulting tensile strain on the liner was calculated to be significantly less than the design maximum tensile strain. Compressive and tensile strain on the leachate collection line are not expected to result in damage and the final slope of the leachate collection line was calculated to be acceptable. Settlement of the final cover system over the vertical increase is expected to be no more than 4 feet, which would reduce slopes by approximately 1%. SME states that the final closure design will include a settlement analysis supporting the design to ensure the integrity of the final cover system over the vertical increase is maintained.
- C. Geotechnical Monitoring Plan: Geotechnical monitoring will begin prior to construction of the vertical increase, in order to verify parameters used in the geotechnical evaluation, and will continue during operation of the vertical

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increase, in order to verify cover settlement parameters and to detect signs of excessive waste or foundation soil movement. Settlement plates will be established in 9 locations within the vertical increase filling limits prior to construction, and will be re-set within the vertical increase after liner construction. Slope stability will be monitored by 4 slope displacement monuments established on the southeastern slope of the existing landfill after the sideslope grades have reached the design elevation but before vertical increase construction begins. Action levels for slope displacement monuments and settlement point monuments will be established prior to vertical increase operation; these will depend in part on geotechnical monitoring results obtained prior to construction. Waste density and thickness measurements will be made periodically during vertical increase operations in order to verify estimates used in the settlement analysis. A geotechnical monitoring plan was included.

- D. Water Balance, Leachate Management: Leachate will be produced from precipitation falling on open landfill areas and either running off the waste or infiltrating through the waste, and will be produced as liquid is squeezed out of the waste. SME calculated the quantity of leachate expected by using analytical methods for consolidation water and the Hydrologic Evaluation of Landfill Performance model, using different scenarios in the operating and post-closure periods. The waste stream was considered to remain consistent in terms of the relative percentages of the different types of waste landfilled. This information was used to design the leachate collection, leak detection, and leachate transport systems. As noted in Finding of Fact #8 above, the mill's wastewater treatment plant has the capacity to handle the quantity of leachate produced. The leachate transport system capacity is limited by the capacity of the pumps located at the mill's debarker building, from which leachate is pumped to the treatment plant. In order to limit leachate quantity, intermediate cover is proposed to be placed on cells to limit the open landfill area and enable clean runoff to be shed as stormwater. Leachate quality is expected to remain consistent with that currently produced. No compatibility issues among wastes, leachate, and liner materials are expected. The leachate conveyance system was designed to provide backup leachate conveyance capability in the event of failure of the drainage geocomposite, piping, or drainage medium. While some components (drainage geocomposite, some piping, and drainage sand) will not be accessible after construction, the perimeter and center leachate collection piping will be maintained, cleaned, and inspected periodically, and the header pipes outside the perimeter could be

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excavated. Potential failure modes were also considered for the leachate transport system (primarily leakage at manholes, clogging or breakage of transport lines, and pump failure at the debarker building). Transport lines and manholes will be maintained, cleaned, and inspected periodically and will also remain accessible for repairs for the life of the landfill. Verso will be able to use the leachate storage pond during emergency repairs or maintenance of the downgradient transport system, and will have the ability to pump directly from the diversion manhole into a truck for transport to the wastewater treatment plant if necessary. Valves within the transport piping system can control flows from selected locations. Maintenance, inspection, and cleaning of leachate collection and transport system components are described in the operations manual.

- E. Gas Management: The existing landfill has a passive gas venting system installed where final cover has been placed. Within the boundary of the vertical increase, existing gas vent risers will be removed when vertical increase cells are constructed. New risers for the existing landfill's gas venting system will be located outside the vertical increase perimeter. A passive gas venting system will also be installed as part of the final cover system for the vertical increase. Since the new gas vent risers for the existing landfill's gas management system will be located at an elevation below the crown of the gas management system remaining under the vertical increase liner system, gas pressure may build up to some extent before it can vent. Verso has several existing gas probes at the perimeter of the existing landfill and will add more. A total of 7 gas probes around the perimeter of the existing landfill will be monitored for signs of gas migration away from the landfill. Since the vertical increase will be constructed in stages, gas will continue to vent through existing pipes until all of Phase I has been constructed. SME determined that the stability of the vertical increase liner system will not be compromised by gas pressure in the existing landfill's gas management system. Gas monitoring is described in the facility's operations manual.
- F. Action Leakage Rate/Response Action Plan: The leak detection system is designed to detect a leak through the primary liner by sampling at the manholes in each cell. SME calculated potential leak detection flows assuming both large and small holes in the primary liner system, head on the liner resulting from the worst design month, and accepted analytical models for calculating flow rates through a composite liner. The leak detection

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system was designed to handle the maximum expected flow rate, and is expected to be able to detect leaks within 2 days. An Action Leakage Rate/Response Action Plan was included with the application, describing actions to be taken at various leakage rates detected. This plan will be appended to the operations manual and will be revised at least 12 months prior to vertical increase operation.

G. Cell Development, Closure: A cell development plan has been prepared, based on the mill's current annual waste volume produced and the need to limit the landfill operating area. Verso currently produces approximately 35,000 cubic yards of waste per year. Cells were sized to provide 1-3 years of disposal capacity and to limit the operating area to 6 acres. Consideration was also given to the need to provide for positive drainage and control of both clean surface water from outside the cell and for impacted surface water inside the cell. Finally, the cell development plan allows for placement of waste uniformly in 5 to 10-foot lifts to gradually fill the cells, minimizing stress on liner system components. Cell size was limited to 6 acres in order to minimize production of leachate and contaminated surface water. Intermediate cover will be used on filled areas that are not yet ready for closure, and final cover will be applied in phases as areas of the vertical increase attain final grades.

H. Staff Review: Staff commented that if the current waste stream ratios or waste volumes change significantly, the geotechnical evaluation and cell development plan may need to be reevaluated; Verso agrees. Staff expressed concern with the number of liner penetrations for the leachate collection manholes; Verso agreed that upon construction of the first cell, performance of the manhole liner penetration will be evaluated, and if necessary, consideration will be given to revision of the vertical increase base grading plan to reduce the total number of manholes. Staff commented that the leachate from the vertical increase should be characterized to determine if it is distinct from that of the existing landfill; Verso agrees to work out a sampling plan to address this concern. Staff comments that this should be submitted with the revised operations manual, at least 12 months prior to vertical increase operation.

The Department finds that Verso has provided sufficient basis for the engineering design, that site specific factors were considered, that potential failure modes and their significance were considered, that conservative and redundant design measures

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were employed to ensure systems will continue to function in the event of failure of part of the system, that methods for detecting and overcoming failures of engineered systems have been proposed, and that the proposed vertical increase will maintain a stable configuration, provided:

- Action levels for the geotechnical monitoring program are proposed at least 12 months prior to vertical increase operation;
- The gas monitoring plan is revised to include new as well as existing probes and included with the revised operations manual submitted at least 12 months prior to vertical increase operation;
- The Action leakage Rate/Response Action Plan is revised and included with the revised operations manual at least 12 months prior to vertical increase operation;
- The geotechnical evaluation is revisited if current waste stream ratios change significantly;
- The cell development plan is revisited if waste generation rates change significantly;
- Manhole liner penetration performance is evaluated and appropriate follow-up action taken during operation of the first cell;
- A characterization plan for vertical increase leachate is proposed at least 12 months prior to vertical increase operation.

13. CONTAMINANT TRANSPORT ANALYSIS

- A. General: The regulations require that the potential for an unreasonable threat to identified sensitive receptors be assessed, and any operational or monitoring measures needed to ensure protection of sensitive receptors are identified. The regulations further specify that an unreasonable threat to a sensitive receptor is an arrival time of less than 6 years from the landfill or 3 years from leachate storage structures or pump stations of a concentration of a pollutant which would result in contamination of that sensitive receptor. Since the leachate pond will be used only on a short term basis in the event of an emergency or unusual event, and since no leachate pump stations are proposed, SME evaluated contaminant transport to identified sensitive receptors only. As noted in the time of travel analysis in Finding of Fact #10.C above, Smelt Brook is the only identified sensitive receptor. The potential failures discussed in the analysis are very unlikely to occur; scenarios assume leachate leakage through the entire liner system over sizeable areas at worst-case leakage rates, assume no decay or attenuation of leachate constituents over time, and no retardation. Longitudinal hydrodynamic dispersion, in addition to advective transport, was considered,

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and saturated flow was assumed. Dilution from precipitation along the flow path was assumed. Initial leachate constituent concentration of 100% was used, and maximum concentrations of selected constituents were then used to represent initial constituent concentrations. Accepted solute transport equations were used along ground water flow paths established by interpreting site data. Therefore, model calibration was unnecessary. Conservative values were used when assumptions were necessary, so a sensitivity analysis was deemed unnecessary.

- B. Failure Scenarios: Five scenarios were analyzed. The first assumed no engineered barriers over the entire vertical increase footprint, and leachate leakage based on average annual precipitation was considered to continue indefinitely. This scenario does not represent a realistic possibility, but is required by the regulations in order to ensure all possible sensitive receptors have been identified and to simulate contaminant concentrations over time at identified sensitive receptors. Flow paths originating from 5 selected locations were considered, and the one with the maximum velocity was chosen for further analysis. After 6 years, simulated concentrations of leachate reaching Smelt Brook would be approximately 44% of the initial concentration.

The second scenario assumed a leak in an active cell. A cell size of 5.8 acres was chosen, and a leakage rate of 200 gallons per acre per day. A leak of this magnitude would trigger the response action plan (requiring additional leak detection monitoring and evaluation of the performance of the engineered systems) in the operations manual. Continuous release of leachate was assumed to represent a worst-case scenario where leakage was just below the action level. Leakage was assumed to escape the entire liner system and the 24-inch barrier soil layer at this rate. Again, the fastest flow path was chosen for further consideration; after 6 years, simulated concentrations of leachate reaching Smelt Brook would be 0.07 % of the initial concentration.

The third scenario assumed damage to the liner such that the entire liner system is removed over a 50-square foot area and leakage continues throughout the operating and post-closure periods. After 6 years, the simulated concentration of leachate reaching Smelt Brook would be 0.5% of the initial concentration.

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The fourth scenario assumed a rupture or dislocation of the leachate pipe entering or exiting the leachate collection manhole for each cell. This would result in leachate pooling around the manhole and infiltrating the underlying existing landfill. Leachate head at the top of the manhole was assumed, and infiltration was assumed to occur through a 100-square foot area around the manhole, continuing for 6 months (in order to simulate a leak lasting throughout the winter). After 6 years, parameter concentrations entering Smelt Brook would be $7 \times 10^{-6}\%$ of the initial concentration.

The fifth scenario assumed dislocation or rupture of the leachate pipe entering/exiting the leachate diversion manhole just before it connects to the transport line to the mill. Leachate head was assumed to be at the elevation of the outlet pipe discharging to the leachate pond; leachate was assumed to pool around the manhole and infiltrate through a 100-square foot area at the base of the manhole, and continue for 30 days. After 6 years, the concentration of leachate entering Smelt Brook would be approximately 0.16 % of the initial concentration.

The initial scenario (no engineered barriers, indefinite leachate leakage) would produce an unreasonable threat to a sensitive receptor. The third scenario would result in leachate concentrations as it reaches Smelt Brook just below the surface water standard for iron after 6 years. The fifth scenario would result in the leachate concentration of iron reaching Smelt Brook after 6 years at about 1/3 the surface water standard.

- C. Remedial Measures: Several remedial measures could be implemented in the event of a leak in the engineered systems, including: repairs to liners, pipes, manholes, containment dikes, and the leachate transport line to the mill; use of bedrock wells for ground water extraction; diversion of contaminated surface water to stormwater detention ponds for collection and removal to the treatment plant; and construction of slurry walls and/or ground water collection trenches to impede flow of ground water in the soils from the site. Design redundancies and conservatism incorporated into the vertical increase design make the possibility of many failure scenarios highly unlikely. In addition to the double composite liner with leak detection, there will be a 24-inch barrier soil layer and the existing landfill's sand gas transmission layer.

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- D. Staff Review: Staff comments that the analytical approach and failure scenarios were adequate, and note that the results justify assessment of the quality of ground water discharging to Smelt Brook. Staff recommends collection of pore-water samples along the reach of Smelt Brook in order to assess quality of discharging ground water. Verso is willing to perform this pore-water sampling, and proposed revising the environmental monitoring plan to include it at least 12 months prior to construction of the first vertical increase cell in order to use the most recent technology and sampling equipment and obtain a year of baseline data.

The Department finds that contaminant releases from the area within the solid waste boundary of the vertical increase will not pose an unreasonable threat to a sensitive receptor provided Verso submits revisions to the environmental monitoring plan addressing pore-water sampling along Smelt Brook to the Department for review and approval at least 12 months prior to construction of the first vertical increase cell.

14. OPERATIONS

Verso maintains an operations manual for the existing landfill which describes operation, inspection, maintenance, monitoring, and closure of the landfill. General site procedures and responsibilities, waste acceptance and placement, a cell development plan, maintenance and inspection schedules, safety procedures, annual reporting requirements, and procedures to follow in the event of a problem are described. The environmental monitoring plan and operator training plan, among other things, are appended to the manual. The manual is reviewed annually and revised as needed. Vertical increase operation will require revisions to the manual to describe vertical increase cell development, revised regular inspection items, append the geotechnical monitoring plan, add leak detection monitoring procedures, append the Action Leakage Rate/Response Action Plan, and revise the environmental monitoring plan. Controlled copies of the manual are distributed to key personnel, and at least one copy is available at the mill site at all times. Staff provided comments on the manual during review of the vertical increase application; Verso agreed to provide a revised manual addressing staff comments at least 12 months prior to vertical increase operation. The Department finds that Verso has provided an acceptable operations manual provided a revised manual addressing staff comments during review of the vertical increase application is submitted at least 12 months prior to vertical increase operation.

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15. ENVIRONMENTAL MONITORING PLAN

Verso currently has an environmental monitoring plan for the existing landfill. It includes sampling 3 times per year at 11 on-site ground water monitoring locations, 5 surface water locations, and 2 leachate locations. Three private wells are sampled once per year. Gas monitoring is currently performed 4 times per year at 4 gas probes along the perimeter of the landfill, an inlet to the leachate collection header pipe within Cell 3 (in the southern portion of the landfill), downgradient leachate collection manholes in the 12-acre secure disposal area and the 16-acre sludge disposal area (these are in the southwestern part of the landfill), and selected gas vents on the landfill. Finally, ash is sampled quarterly. Verso also monitors its sludge water content. Sludge is not required to be characterized as long as Verso does not make any changes in its processes that could change the sludge characteristics.

All of the current environmental monitoring locations will continue to be monitored. No new monitoring wells are proposed. Verso will add leak detection system monitoring, will develop a sampling and analytical plan to characterize leachate from the vertical increase, and will add pore-water sampling locations along Smelt Brook. Verso will also add 3 gas probes along the landfill perimeter to the gas monitoring program. Verso proposed to provide a revised environmental monitoring program at least 12 months prior to vertical increase operation.

The Department finds that Verso has provided an acceptable environmental monitoring program provided a revised program is submitted to the Department including leak detection system monitoring, vertical increase leachate characterization, pore-water sampling along Smelt Brook, and a revised gas monitoring plan at least 12 months prior to vertical increase operation.

BASED on the above Findings of Fact, and subject to the conditions listed below, the Department makes the following CONCLUSIONS:

1. Verso has provided adequate evidence of financial ability to construct and operate the vertical increase provided it demonstrates to the Department that construction costs have been included in the mill's capital budget prior to commencing construction for each year in which construction is proposed.

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2. Verso has made adequate provisions for financial assurance for closure and post-closure care, provided it does not begin construction without an approved financial assurance mechanism in place for the appropriate amount.
3. Verso has provided adequate evidence of technical ability to construct and operate the vertical increase in a manner consistent with state environmental requirements and its license, and the Department finds no reason to withhold this license based on the civil and criminal disclosure statement.
4. The vertical increase will not unreasonably adversely affect existing uses or scenic character provided Verso continues to adhere to its current policies regarding timing of operation and construction, and regarding operational practices to limit noise.
5. Verso has made adequate provisions for erosion and sedimentation control.
6. Verso has made adequate provision for utilities associated with the vertical increase.
7. The proposed vertical increase will not cause or increase flooding on site or on adjacent properties provided the 24-inch culvert under the landfill is video inspected just prior to vertical increase construction and the line is found to be intact.
8. The vertical increase does not overlie a significant sand and gravel aquifer or pose an unreasonable threat to a significant sand and gravel aquifer it does not overlie; that the proposed vertical increase does not pose an unreasonable threat to an underlying fractured bedrock aquifer; and that the proposed vertical increase will not result in a time of travel of less than 6 years to a sensitive receptor, provided: Verso submits north slope closure and leachate collection evaluation documents, including detailed design drawings and technical specifications, as minor revision applications to the Department in accordance with the schedule agreed to by Verso and the Department.
9. The vertical increase design is acceptable provided that Verso complies with the listing of submittals and actions in Finding of Fact #11
10. Verso has provided sufficient basis for the engineering design, site specific factors were considered, potential failure modes and their significance were considered, conservative and redundant design measures were employed to ensure systems will continue to function in the event of failure of part of the system, methods for detecting and overcoming failures of engineered systems have been proposed, and the

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proposed vertical increase will maintain a stable configuration, provided Verso complies with the listing of submittals and actions in Finding of Fact #12.

11. Contaminant releases from the area within the solid waste boundary of the vertical increase will not pose an unreasonable threat to a sensitive receptor provided Verso submits revisions to the environmental monitoring plan addressing pore-water sampling along Smelt Brook to the Department for review and approval at least 12 months prior to construction of the first vertical increase cell.
12. Verso has provided an acceptable operations manual provided a revised manual addressing staff comments during review of the vertical increase application is submitted at least 12 months prior to vertical increase operation.
13. Verso has provided an acceptable environmental monitoring program provided a revised program is submitted to the Department including leak detection system monitoring, vertical increase leachate characterization, pore-water sampling along Smelt Brook, and a revised gas monitoring plan at least 12 months prior to vertical increase operation.

THEREFORE the Department APPROVES the above noted application of VERSO BUCKSPORT LLC SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations.

1. The Standard Conditions of Approval, a copy attached as Appendix A.
2. Verso shall take all necessary actions to ensure that its activities or those of its agents do not result in unnecessary or noticeable erosion of soils on site during operation of the facility.
3. Prior to commencing construction, Verso must demonstrate to the Department that construction costs have been included in the mill's capital budget for each year in which construction is proposed.
4. Verso shall not begin construction of the vertical increase without an approved financial assurance mechanism for closure and post-closure care in place for the appropriate amount.
5. A video inspection of the 24-inch culvert under the landfill must demonstrate the integrity of the culvert before construction of the vertical increase may commence.

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6. Verso shall submit north slope closure and leachate collection evaluation minor revision application materials, including detailed design drawings and technical specifications, to the Department in accordance with the schedule agreed to by Verso and the Department.
7. Verso shall begin construction on the north slope in 2013 and complete closure and leachate collection evaluation by the end of 2014.
8. Individual cell design and detailed construction drawings with technical specifications shall be submitted to the Department for review and approval at least 12 months prior to each phase of construction.
9. Size and location of storage areas for sludge to be used for frost and erosion protection shall be proposed to the Department at least 12 months prior to construction of a new cell.
10. Phased closure documents, including detailed design drawings and technical specifications meeting the requirements of the regulations in effect at the time shall be submitted to the Department for review and approval at least 12 months prior to each phase of closure.
11. No later than September 1, 2015, design information and detailed construction drawings and technical specifications for leachate pond reconstruction shall be submitted to the Department for review and approval as a minor revision application.
12. The leachate transport system from the landfill manhole to the debarker building at the mill shall be inspected, and cleaned as necessary, just prior to vertical increase operations.
13. The geotechnical evaluation shall be revisited if current waste stream ratios change significantly.
14. The cell development plan shall be revisited if waste generation rates change significantly.
15. Manhole liner penetration performance shall be evaluated and appropriate follow-up action as agreed to by the Department taken during operation of the first cell.

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16. Verso shall submit revisions to the environmental monitoring plan addressing pore-water sampling along Smelt Brook to the Department for review and approval at least 12 months prior to construction of the first vertical increase cell.
17. At least 12 months prior to vertical increase operation, Verso shall submit, for review and approval, a revised operations manual addressing staff comments during review of the vertical increase, including the following:
 - Action levels for the geotechnical monitoring program;
 - A revised gas monitoring plan including new as well as existing probes; and
 - A revised Action Leakage Rate/Response Action Plan.
18. Verso shall provide a revised environmental monitoring plan to the Department for review and approval at least 12 months prior to vertical increase operation, including leak detection system monitoring, vertical increase leachate characterization, pore-water sampling along Smelt Brook, and a revised gas monitoring plan.
19. The invalidity or unenforceability of any provision, or part thereof, of this license shall not affect the remainder of the provision or any other provisions. This license shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

DONE AND DATED AT AUGUSTA, MAINE, THIS 18th DAY
 OF JANUARY, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
 PATRICIA W. AHO, COMMISSIONER

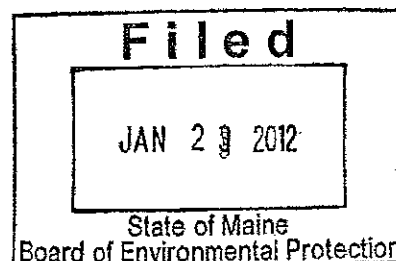
PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

Date of initial receipt of application: December 29, 2010

Date of acceptance: January 21, 2011

Date filed with Board of Environmental Protection:

XKK72938/emb



Appendix A

STANDARD CONDITIONS TO ALL SOLID WASTE FACILITY LICENSES

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL. VIOLATIONS OF THE CONDITIONS UNDER WHICH A LICENSE IS ISSUED SHALL CONSTITUTE A VIOLATION OF THAT LICENSE AGAINST WHICH ENFORCEMENT ACTION MAY BE TAKEN, INCLUDING REVOCATION.

1. **Approval of Variations from Plans.** The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed by the licensee. Any consequential variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
2. **Compliance with All Applicable Laws.** The licensee shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
3. **Compliance with All Terms and Conditions of Approval.** The licensee shall submit all reports and information requested by the Department demonstrating that the licensee has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. **Transfer of License.** The licensee may not transfer the solid waste facility license or any portion thereof without approval of the Department.
5. **Initiation of Construction or Development Within Two Years.** If the construction or operation of the solid waste facility is not begun within two years of issuance of within 2 years after any administrative and judicial appeals have been resolved, the license lapses and the licensee must reapply to the Department for a new license unless otherwise approved by the Department.
6. **Approval Included in Contract Bids.** A copy of the approval must be included in or attached to all contract bid specifications for the solid waste facility.
7. **Approval Shown to Contractors.** Contractors must be shown the license by the licensee before commencing work on the solid waste facility.
8. **Background of key individuals.** A licensee may not knowingly hire as an officer, director or key solid waste facility employee, or knowingly acquire an equity interest or debt interest in, any person convicted of a felony or found to have violated a State or federal environmental law or rule without first obtaining the approval of the Department.
9. **Fees.** The licensee must comply with annual license and annual reporting fee requirements of the Department's rules.
10. **Recycling and Source Reduction Determination for Solid Waste Disposal Facilities.** This condition does not apply to the expansion of a commercial solid waste disposal facility that accepts only special waste for landfilling.

The solid waste disposal facility shall only accept solid waste that is subject to recycling and source reduction programs, voluntary or otherwise, at least as effective as those imposed by 38 MRSA Chapter 13.

11. Deed Requirements for Solid Waste Disposal Facilities. Whenever any lot of land on which an active, inactive, or closed solid waste disposal facility is located is being transferred by deed, the following must be expressly stated in the deed:

- A. The type of facility located on the lot and the dates of its establishment and closure.
- B. A description of the location and the composition, extent, and depth of the waste deposited.
- C. The disposal location coordinates of asbestos wastes must be identified.

